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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,739	04/03/2001	Daniel R. Tretter	10006305-1	4100

7590 10/20/2004
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

JELINEK, BRIAN J

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/825,739

Applicant(s)TRETTER ET AL. *E***Examiner**

Brian Jelinek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/3/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/13/2001</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

This is a first office action in response to application no. 09/825,739 filed on 4/3/2001 in which claims 1-16 are presented for examination.

5

Drawings

The drawings are objected to because the unlabeled rectangular box(es) shown in the drawings should be provided with descriptive text labels--..

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended

10 replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended.

The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining

15 figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the
20 drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

- 5 A person shall be entitled to a patent unless –
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.
- 10

Claims 1-3, 5-11, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Shaffer et al. (U.S. Pub. No. 2001/0046330).

- Regarding claim 1, Shaffer et al. teaches a method for classifying blocks of data
- 15 comprising the steps of: capturing a block of non-textual data using a recording device (para 25, lines 21-24) for which settings for data-capture attributes are indicative of characteristics of non-textual data (para 27, lines 14-23); linking meta-data with the block of non-textual data, the meta-data corresponding to at least one data-capture attribute during capture by the recording device (para 27, lines 14-23; para 25, lines 32-38); and
- 20 performing automated processing to assign description to contents of the block, including utilizing the meta-data in determining the description (para 32).

 Regarding claim 2, Shaffer et al. teaches the step of capturing includes recording at least one of an image file by an image-capture device (para 25, lines 21-24) and audio file by an audio recorder.

- 25 Regarding claim 3, Shaffer et al. teaches the step of linking includes obtaining exposure information that identifies an exposure setting of the recording device (para 27, lines 14-23).

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Regarding claim 5, Shaffer et al. teaches a step of transmitting (Fig. 4, element 92) the block of the non-textual data and the meta-data from the recording device to a computer for performing the automated processing (Fig. 4, element 94).

Regarding claim 6, Shaffer et al. teaches the automated processing includes
5 analyzing the non-textual data and the meta-data to identify content-based information and manipulating the content-based information to derive the description (Fig. 3, elements 64 and 68; para 31, lines 54-58 and 61-66; para 32, lines 1-11; para 28).

Regarding claim 7, Shaffer et al. teaches the step of analyzing includes applying digital signal processing (DSP) to the non-textual data (para 31, lines 61-64).

10 Regarding claim 8, Shaffer et al. teaches the step of performing the automated processing includes assigning a semantic expression to the block of non-textual data for use as at least one descriptor for one of organizing the blocks of data (para 32) matching a query during a search for the block of non-textual data (para 31, lines 56-58; para 34).

Regarding claim 9, Shaffer et al. teaches a system for classifying subject data
15 comprising: a recording device for capturing non-textual subject data (para 25, lines 21-24) and for recording meta-data, the meta-data being specific to an operational mode of the recording device during capturing of the non-textual subject data (para 27, lines 14-23); and a processor configured to implement a classification technique utilizing both of the non-textual subject data and the meta-data for identifying at least one classifier, the
20 classifier being representative of an attribute of the subject data (Fig. 3, elements 64 and 68; para 31, lines 54-58 and 61-66; para 32, lines 1-11; para 28).

Regarding claim 10, Shaffer et al. teaches the recording device is a digital camera (para 25, lines 21-24).

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Regarding claim 11, Shaffer et al. teaches the operational mode of the recording device is based on a state as determined by at least one of exposure time, auto gain setting, film speed, shutter speed, white balance, aperture/lens index, focusing distance, and flash/no flash operation (para 27, lines 11-23).

5 Regarding claim 14, Shaffer et al. teaches a method of categorizing files of non-textual data comprising the steps of: establishing an evaluation system for decision making, including using automated processing techniques to define a plurality of algorithms, the algorithms utilizing both of content-based data and meta-data (para 31, lines 54-58 and 61-66; para 28), the content-based data corresponding to content
10 information of a file of the non-textual data and the meta-data corresponding to data-capturing settings of a data-capturing device during capture of the file of non-textual data (para 27, lines 5-23); capturing a file of non-textual subject data (para 25, lines 21-24); and processing the file of non-textual subject data through the evaluation system for decision making to selectively identify a plurality of classifiers associated with the file of
15 non-textual subject data (para 32).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

20 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been
25 obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer et al. (U.S. Pub. No. 2001/0046330) in view of Exif v. 2.1 (JEIDA-49-1998).

Regarding claim 4, Shaffer et al. teaches the step of capturing further includes
5 configuring the block as a file of non-textual data in a digital format and wherein the step
of linking includes forming a tag to the file (para 27, lines 14-23), including a teaching
that the metadata may comprise exposure parameters. Shaffer et al. does not specifically
teach the tag is indicative of a plurality of exposure time, automatic gain, film speed,
shutter speed, white balance, aperture/lens index, focusing index, and flash/no flash
10 operation.

However, the Exif v. 2.1 standard specifically teaches additional tag attributes
including: exposure time, aperture, flash, and shutter speed (Exif v. 2.1, JEIDA-49-
1998, p. 35). It would have been obvious to one of ordinary skill in the art to provide the
Exif standard because it is a “standard for the image file format used in digital still
15 cameras” that satisfies a desire for “uniformity of the attribute information that can be
recorded in a file” (Exif v. 2.1, JEIDA-49-1998, pg. "Revision History"). As a result, it
would have been obvious to one of ordinary skill in the art at the time of the invention to
provide the Exif standard because it is a “standard for the image file format used in
digital still cameras” that satisfies a desire for “uniformity of the attribute information
20 that can be recorded in a file”.

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Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer et al. (U.S. Pub. No. 2001/0046330) in view of Spence et al. (U.S. Pat. No. 6,018,728).

Regarding claim 12, Shaffer et al. teaches a “class of algorithms employed for this
5 grouping process would include image processing algorithms which identify objects and feature sets within an image by way of the pixel information” (para 31, lines 61-64). Shaffer et al. does not teach the specifics of the image processing algorithms.

However, Spence et al. teaches a neural network capable of classifying images in a hierarchical tree structure (col. 3, lines 59-65; col. 4, lines 6-17; (col. 1, lines 50-52)
10 Furthermore, Spence shows a sequential progression of decision making comprising a plurality of classification nodes including algorithms for determining which of a plurality of alternative next classification nodes is to be encountered in the sequential progression of decision making (Fig. 2). One of ordinary skill in the art would have provided the neural network classification method of Spence et al. for the purpose of detecting
15 complex objects by using collections of simple networks in order to produce an overall estimate that an object of interest is present (col.4, lines 18-27; col. 2, lines 30-39). As a result it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the classification method of Spence et al. for the purpose of detecting complex objects by using collections of simple networks in order to produce an
20 overall estimate that an object of interest is present.

Regarding claim 13, Shaffer et al. teaches a “class of algorithms employed for this grouping process would include image processing algorithms which identify objects and

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feature sets within an image by way of the pixel information” (para 31, lines 61-64).

Shaffer et al. does not teach the specifics of the image processing algorithms.

However, Spence et al. teaches a classification technique is a neural network having an input stage, an output stage and at least one decision-making stage, the decision-making

5 stage comprising a plurality of classification nodes, at least some of the classification nodes configured to receive a plurality of weighted inputs from other classification nodes within the decision-making stage and from the input stage for generating an output as a basis for identifying classifiers (col. 3, lines 59-65; col. 1, lines 25-31).

10 **Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer et al. (U.S. Pub. No. 2001/0046330) in view of Hutcheson et al. (U.S. Pat. No. 5,274,714).**

Regarding claim 15, Shaffer et al. teaches grouping images by image content and metadata (para 31, lines 46-66). Shaffer et al. does not teach a learning procedure.

15 However, Hutcheson et al. teaches a learning procedure in which the content-based data is extracted from each of a plurality of learning images (col. 9, lines 1-41). One of ordinary skill in the art would have provided the learning procedure of Hutcheson et al., in which content based data is extracted from each of a plurality of images, for purpose of training a neural network to recognize a query image (col. 9, lines 1-30). As a
20 result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the learning procedure of Hutcheson et al., in which content based data is extracted from each of a plurality of images, for the purpose of training a neural network to recognize a query image.

Although Hutcheson et al. teaches using the content of the image in order to recognize images, Hutcheson et al. does not specifically teach grouping images using metadata. However, in light of the teaching of Shaffer et al. that images can be grouped based on content and metadata (para 31, lines 46-58), it is clear that in the case where
5 images are grouped based on metadata and further grouped by a neural network based on image content, that both content data and metadata (which may comprise operational conditions) would be identified for each image.

Regarding claim 16, Shaffer et al. teaches grouping images by image content and metadata (para 31, lines 46-66). Shaffer et al. does not teach a learning method.

10 However, Hutcheson et al. teaches a learning procedure inputting a series of representative images typical of those expected to be recognized by the neural network and generating a set of parameters which allow the neural network to determine if an image belongs in a class of images (col. 9, lines 1-41); the images from which the classification parameters are determined constituting a plurality of learning images and
15 the classification parameters derived from the these learning images being learning classifiers. One of ordinary skill in the art would have provided the learning procedure of Hutcheson et al. using a plurality of learning images, for purpose of training a neural network to recognize a query image (col. 9, lines 1-30). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the
20 learning procedure of Hutcheson et al. using a plurality of learning images, for purpose of training a neural network to recognize a query image.

Although Hutcheson et al. teaches using the content of the image in order to recognize images, Hutcheson et al. does not specifically teach grouping images using

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metadata. However, in light of the teaching of Shaffer et al. that images can be grouped based on content and metadata (para 31, lines 46-58), it is clear that in the case where images are grouped based on metadata and further grouped by a neural network based on image content, that a learned classification is produced from analysis of image contents
5 and metadata.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Jelinek whose telephone number is
10 (703) 305-4724. The examiner can normally be reached on M-F 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding
15 is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through
20 Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Brian Jelinek

10/8/2004

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A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.

ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

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